

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-016670**Date Inspected:** 28-Aug-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Zhao Chen Sun**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower Components**Summary of Items Observed:**

On this date Caltrans Office of Structural Materials Quality Assurance Inspector, Sandeep Kumar (QA) was present during the times noted above for observations relative to the work being performed.

TOWER JETTY

The following Non Destructive Testing (NDT) inspection carried out as per the ZPMC submitted Notification No. 006508

Magnetic Particle Testing (MT)

This QA inspector performed MT of the area previously tested and accepted by ZPMC Quality Control personnel.

This QA Inspector generated an MT report for this date. The member is identified as Tower Component. The weld designation/Location reviewed as follows:

REPAIR POINTS AFTER BLASTING (EXTERNAL) – WEST TOWER LIFT-2**SKIN ‘B’ – BASE MATERIAL REPAIR**

This QA Inspector observed the following work not in compliance:

Description of Incident:

During random 10% verification Ultrasonic Testing (UT) of Cross Bracing Gusset plate, this Quality Assurance Inspector (QA) discovered the following issue:

One (1) Class “A” non conforming longitudinal indication measuring approximately 10 mm in length.

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The weld is a complete joint penetration (CJP) T- joint, joining the south Tower Skin 'A' to the Cross Bracing Gusset plate and is identified as WD1-GUSA3-3-109M-S # 3B.

The UT discontinuity rating is +0, Class "A" non-conformable indication.

Scanning was performed from Face B.

Depth of the discontinuity from Face B is approximately 36 mm and the Y location is 150 mm from Skin A/E corner.

The Material thickness is 40 mm.

The member is identified as Seismic Performance Critical Member (SPCM).

The Notice of Witness Inspection Number (NWIT) is 006505. These indications are located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. ZPMC's QC personnel performed 100% UT inspection of this weld.

Applicable reference:

Special Provisions Section 8.3; "Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents."

AWS D1.5 Section 6.26.3.1; "Welds that are subject to UT in addition to visual inspection shall be acceptable if they meet the following requirements:...(1) Welds subject to tensile stress under any condition of loading shall conform to the requirements of Table 6.3...(2) Welds subject to compressive stress shall conform to the requirements of Table 6.4."

AWS D1.5-02 Section 6; Table 6.3

This QA notified ZPMC CWI identified as Mr. Zhao Chen Sun and ABF inspector identified as Mr. Likewei of the above issue and that an incident report will be generated.

NOTE: - Due to component geometry it appears that ZPMC personnel could not perform 100% full volumetric UT testing of this weld joint.

For further information see below pictures:-

BAY#10

This QA Inspector observed the following work in progress

Shielded Metal Arc Welding (SMAW):

Repair welding of weld joint # 10 located on South tower Lift-5 Grillage Assembly SSD1 – TL5 – 1B/F. Welder is identified as 057258. ZPMC Quality Control (QC) Inspector is identified as Yuan Hui Gang. The welding variables recorded by QC appeared to comply with the WPS – 485 – SMAW – 3G (3F) - Repair.

Weld joint # 04 located on North tower Lift-5 Grillage Assembly NSD1 – TL5 – 3B/F. Welder is identified as 037743. ZPMC Quality Control (QC) Inspector is identified as Yu Zhi Lai. The welding variables recorded by QC appeared to comply with the WPS – B – T – 3213 – TC –U4c.

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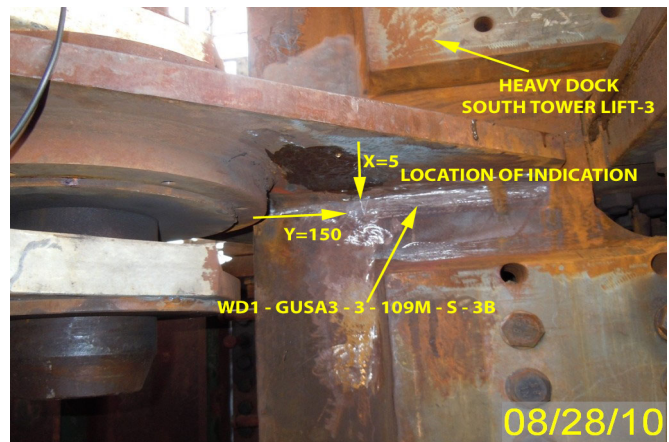
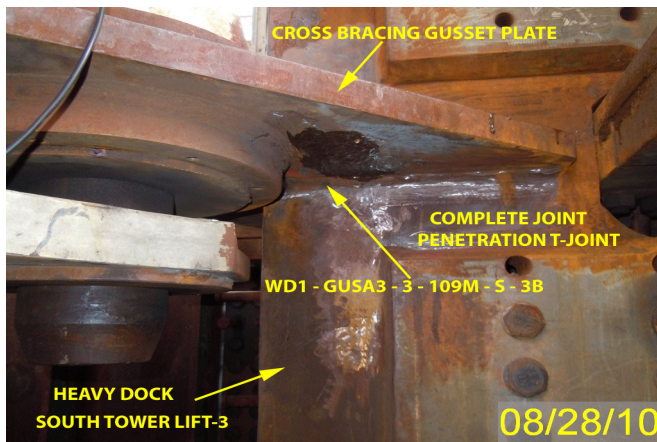
Repair welding of weld joint # 5A located on South tower Lift-5 Grillage Assembly SSD1 – TL5 – 1B/F. Welder is identified as 052493. ZPMC Quality Control (QC) Inspector is identified as Yuan Hui Gang. The welding variables recorded by QC appeared to comply with the WPS – 485 – SMAW – 3G (3F) - Repair.

BAY#11

This QA Inspector observed the following work in progress
Shielded Metal Arc Welding (SMAW):

Repair welding of weld joint # 17A/B located on West tower Lift-5 Grillage Assembly WSD1 – TL5 – 4B/F. Welder is identified as 037932. ZPMC Quality Control (QC) Inspector is identified as Xu Jie. The welding variables recorded by QC appeared to comply with the WPS – 485 – SMAW – 3G (3F) – Repair.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.



Summary of Conversations:

No Relevant Conversations.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Michael Ng - 15921845703, who represents the Office of Structural Materials for your project.

Inspected By: Kumar,Sandeep

Quality Assurance Inspector

Reviewed By: Clifford,William

QA Reviewer